

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/012048 A1

(51) International Patent Classification⁷: **B60R 21/01**

(21) International Application Number:
PCT/JP2004/011392

(22) International Filing Date: 2 August 2004 (02.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-286460 5 August 2003 (05.08.2003) JP

(71) Applicant (for all designated States except US): **TOYOTA JIDOSHA KABUSHIKI KAISHA** [JP/JP]; 1, Toyota-cho, Toyota-shi, Aichi 471-8571 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MIYATA, Yujiro**

[JP/JP]; C/o Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi 471-8571 (JP). **IYODA, Motomi** [JP/JP]; C/o Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi 471-8571 (JP).

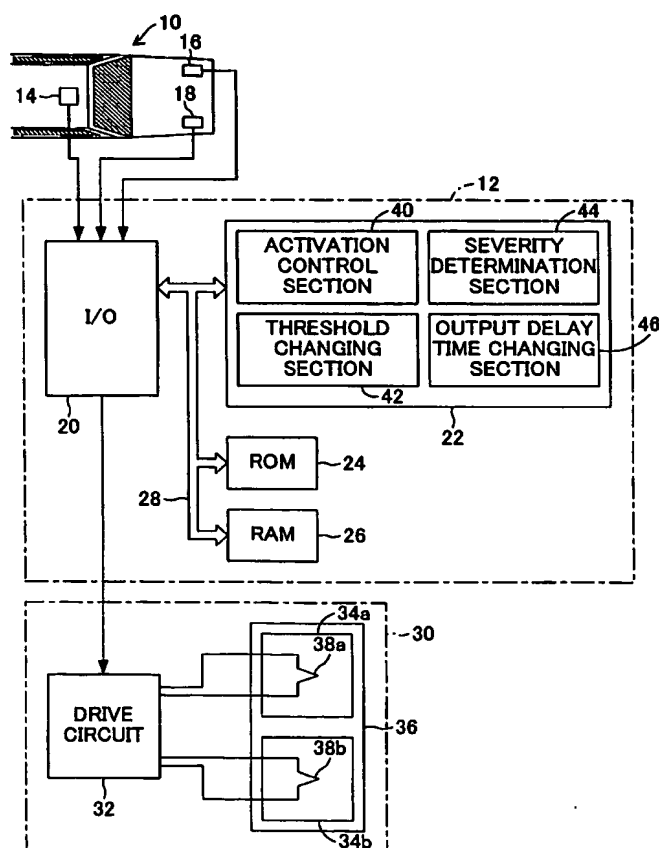
(74) Agent: **PROSPEC PATENT FIRM**; 12th Floor, Nagoya-KS Building, 1-18, Taiko 3-chome, Nakamura-ku, Nagoya-shi, Aichi 453-0801 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: **ACTIVATION CONTROL APPARATUS FOR OCCUPANT PROTECTION APPARATUS**



(57) Abstract: An activation control apparatus controls activation of an airbag unit (30). An electronic control unit (12) detects a floor deceleration G_f and front decelerations G_I , G_r from signals output from a floor sensor (14) and front sensors (16, 18). Also, the electronic control unit (12) calculates a velocity change V_n from the floor deceleration G_f , and determines the severity of a collision. Further, the electronic control unit (12) determines the state of a symmetric flag FRG through comparison between the front decelerations G_I , G_r and the value of a front determination map boundary, serving as a front threshold variation pattern and through comparison between the floor deceleration G_f and the value of a low or high map boundary, serving as an activation threshold variation pattern. Then, on the basis of results of the severity determination and the state of the symmetric flag FRG, the electronic control unit (12) determines a delay time in relation to the activation of the airbag unit (30). An airbag (36) is expanded and deployed on the basis of the delay time.

GM, KE, LS, MW, MZ, NA, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.